OPERATION OF DUF6 BACKGROUND AND SITE INFORMATION

A. Background

1. The chemical and physical characteristics of DUF6 pose potential health risks, and the material must be handled accordingly. Uranium and its decay products in DUF6 in storage emit low levels of alpha, beta, gamma, and neutron radiation. The radiation levels measured on the outside surface of filled DUF6 storage cylinders are typically about 2 to 3 millirem per hour (mrem/h), decreasing to about 1 mrem/h at a distance of 1 ft (0.3 m). If DUF6 is released to the atmosphere, it reacts with water vapor in the air to form hydrogen fluoride (HF) and a uranium oxyfluoride compound called uranyl fluoride (UO_2F_2). These products are chemically toxic. Uranium is a heavy metal that, in addition to being radioactive, can have toxic chemical effects (primarily on the kidneys) if it enters the bloodstream by means of ingestion or inhalation. HF is an extremely corrosive gas that can damage the lungs and cause death if inhaled at high concentrations.

2. Cylinders are stored with minimum risks to workers, members of the general public, and the environment at the Paducah and Portsmouth sites.

3. The Department has characterized the presence of transuranic and technetium contamination in the depleted UF6 cylinders using existing process knowledge and sampling of some cylinders. The results of this characterization show non-detectable or very low levels dispersed in the depleted UF6 stored in a fraction of the cylinders. However, there are higher levels associated with nonvolatile residues ("heels") remaining in a small number of cylinders formerly used as recycled uranium feed cylinders. The UF6 contaminated with transuranic elements and technetium at the concentrations expected to be encountered can be safely handled. Table C.1 shows values of the maximum expected concentrations of transuranic isotopes and technetium dispersed throughout the UF6 in the storage cylinders. Table C.2 shows values of the maximum expected concentration of transuranic and technetium contamination in "heels" that are present in a small but unknown number of the cylinders. This "heels" material will remain in these cylinders after the DUF6 has been removed.

Table C.1 Bounding concentrations of dispersed transuranic and ^{99}Tc contamination in the DUF6 tails cylinders

Contaminant	ppb_U
^{238}Pu	0.00012
^{239}Pu	0.043
^{237}Np	5.2
^{99}Tc	15.9
^{241}Am	0.0013

Table C.2 Bounding concentrations of transuranic and ^{99}Tc contamination in DUF6 feed heels material present in some cylinders	
Contaminant	**ppb_U**
^{238}Pu	5
^{239}Pu	1,600
^{237}Np	54,000
^{99}Tc	5,700,000
^{241}Am	0.57

4. As the inventory of DUF6 cylinders age, some cylinders show evidence of external corrosion which can result in cylinder breaches. However, since DUF6 is a solid at ambient temperatures and pressures, it is not readily released from a cylinder following a leak or breach. When a cylinder is breached, moist air reacts with the exposed DUF6 solid and iron, resulting in the formation of a dense plug of solid uranyl fluoride (UO_2F_2) and iron compounds and a small amount of HF vapor. This plug limits the amount of material released from a breached cylinder.

5. The Department's Final Programmatic Environmental Impact Statement for Alternative Strategies for the Long-Term Management and Use of Depleted Uranium Hexafluoride, dated April 1999, described the preferred alternative for managing DUF6. The Record of Decision (ROD) concerning the Department's decision on the long-term management and use of DUF6 was issued in August 1999. The Department's Final Environmental Impact Statement for Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Portsmouth, Ohio, site (DOE/EIS- 0360), dated June 2004, described the preferred alternative for managing DUF6 at the Portsmouth Gaseous Diffusion Plant. The ROD concerning the Department's decision on the long-term management and use of DUF6 at the Portsmouth Conversion Facility was issued on July 27, 2004. Prior to issuing the ROD, however, DOE discovered that it had inadvertently failed to provide copies of the draft and final Environmental Impact Statement (EIS) to either the States of Nevada or Utah, and DOE concluded that it was bound by the Council on Environmental Quality's regulations at 40 CFR 1502.19 to forego decisions on the disposal location(s) evaluated in the EIS until it had properly served these states. Accordingly, in the ROD, DOE did not include a decision with respect to specific disposal location(s) but instead informed the public that the DOE would make the decision later and that any Supplement Analysis would be provided to the public for review and comment. Refer to Volume 69 of the Federal Register (69 FR) at page 44653 (July 27, 2004) for additional information on this subject. DOE has now corrected its oversight in notifying the States of Nevada and Utah, has provided appropriate stakeholders with documentation as required by the regulations, and is considering the selection of a disposal location for the Conversion Facility at the Portsmouth site.

6. The Department's Final Environmental Impact Statement for Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Paducah, Kentucky site (DOE/EIS- 0359), dated June 2004, described the preferred alternative for managing DUF6 at the Paducah Gaseous Diffusion Plant. The ROD concerning the Department's decision on the long-term management and use of DUF6 at the Paducah Conversion Facility was issued

on July 27, 2004. Prior to issuing the ROD, however, DOE discovered that it had inadvertently failed to formally provide copies of the draft and final EIS to either the States of Nevada or Utah, and DOE concluded that it was bound by the Council on Environmental Quality's regulations at 40 CFR 1502.19 to forego decisions on the disposal location(s) evaluated in the EIS until it had properly served these states. Accordingly, in the ROD, DOE did not include a decision with respect to specific disposal location(s) but instead informed the public that DOE would make the decision later and that any Supplement Analysis would be provided to the public for review and comment. Refer to Volume 69 of the Federal Register (69 FR) at page 44658 (July 27, 2004) for further information on this subject. DOE has now corrected its oversight in notifying the States of Nevada and Utah, has provided appropriate stakeholders with documentation as required by the regulations, and is considering the selection of a disposal location for the Conversion Facility at the Paducah site.

7. A Supplement Analysis, covering both the Portsmouth and Paducah Conversion Facilities, was issued as a draft on April 3, 2007 (72 FR 15869). After a 45-day public comment period, the Supplement Analysis was revised. The Department will be responsible for obtaining necessary approvals of the Supplement Analysis (i.e., approval will be a Government-Furnished Services and Items (GFS/I) deliverable). The Contractor, responsible for operating the DUF6 Conversion Facility at the Portsmouth and Paducah sites, shall not commence Conversion Operations (as defined in C.4) until the Department provides formal, written direction.

8. With the exception of the Supplement Analysis, the Contractor will be responsible for preparation of any additional NEPA documentation required to complete the scope of work. The Contractor shall advise DOE of the need to prepare additional NEPA documentation, shall provide DOE with draft NEPA documentation for review and comment, and shall incorporate DOE comments in the final NEPA document. The Contractor shall reproduce and distribute the appropriate number of final NEPA documents, as requested by the DOE.

B. Site Information

1. Paducah - For a description of DOE-owned Paducah cylinder yards relevant to this Contract, refer to the DUF6 Operations website. General location and site maps of the Paducah Plant, existing cylinder yards, and the fully-constructed Conversion Facility site are provided herein at the end of Section C. A portion of the Conversion Facility site is designated as a Resource Conservation and Recovery Act (RCRA) Solid Waste Management Unit (SWMU 194) in the Paducah Federal Facilities Agreement and is subject to evaluation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

2. Portsmouth - A portion of the site is leased to USEC and is regulated by the Nuclear Regulatory Commission (NRC); the remainder of the site is operated by DOE site contractor(s). For a description of DOE owned Portsmouth cylinder yards relevant to this Contract, see the DUF6 Operations website. The Conversion Facility site, in general, is bounded on the west side by an unnamed road west of X-744T; on the north and east side by a truck access road; and on the east and south side by a dirt construction road. Excluded from this area are Buildings X-616 (USEC), X-106B, and X-106C (USEC). General location and site maps of the Portsmouth Plant, existing cylinder yards, and fully-constructed Conversion Facility site are provided herein at the end of Section C.

C. Conversion Mission Information

1. At both the Paducah and Portsmouth sites, Uranium Disposition Services, LLC (the UDS Incumbent Contractor) will transition the DOE-owned buildings, systems, and equipment to the Contractor.

2. A description of the facilities and activities at the Portsmouth and Paducah Conversion Facilities can be found in the site-specific Facility Description Documents (FDDs) and System Requirements Documents (SRDs). The Paducah and/or Portsmouth Conversion Facilities may additionally receive, store, and process cylinders filled as a result of on-going or new uranium enrichment processes. Table C.3 identifies the total estimated inventory of DUF6, in metric tons (MTs), at each plant.

Table C.3 Inventory of DUF6 (as of April 2008)	
Site	**MT DUF6**
Portsmouth Gaseous Diffusion Plant	250,000[1]
Paducah Gaseous Diffusion Plant	441,000[2]
Total	691,000

Notes:
1. Includes DUF6 inventory from East Tennessee Technology Park.
2. Includes additional DUF6 inventory estimated to be received from continued enrichment operations as defined in the Memoranda of Agreement between DOE and USEC.

3. The basis for the sizing of the Conversion Facilities is to process DUF6 at a rate such that the total DUF6 inventory at both sites will be converted and dispositioned in no longer than 25 years (estimated) after Conversion Operations begin, subject to the constraints of projected funding levels for Contract work. The East Tennessee Technology Park (ETTP, formerly the Oak Ridge Gaseous Diffusion Plant) cylinders containing DUF6 will be processed at the Portsmouth Conversion Facility and all of these cylinders have been transported to the Portsmouth site. Table C.4 identifies the anticipated processing rates of DUF6 at each Conversion Facility once Conversion Operations begin at full capacity.

Table C.4 DUF6 Processing Rates		
Site	**MT DUF6**	**Plant Capacity**
Portsmouth Gaseous Diffusion Plant	250,000	13,500 MT/yr
Paducah Gaseous Diffusion Plant	441,000	18,000 MT/yr

D. Conversion Process Information

1. Process Overview: The Conversion Process for the Conversion Facilities has been designed and built as a dry conversion process for continuous (24 hours per day seven days per week) operation. In this process DUF6 cylinders will be delivered from long-term storage to the Full DUF6 Cylinder Staging Yard near the Conversion Building using existing cylinder transport equipment at the site. DUF6 will be vaporized from these cylinders and converted to a mixture of

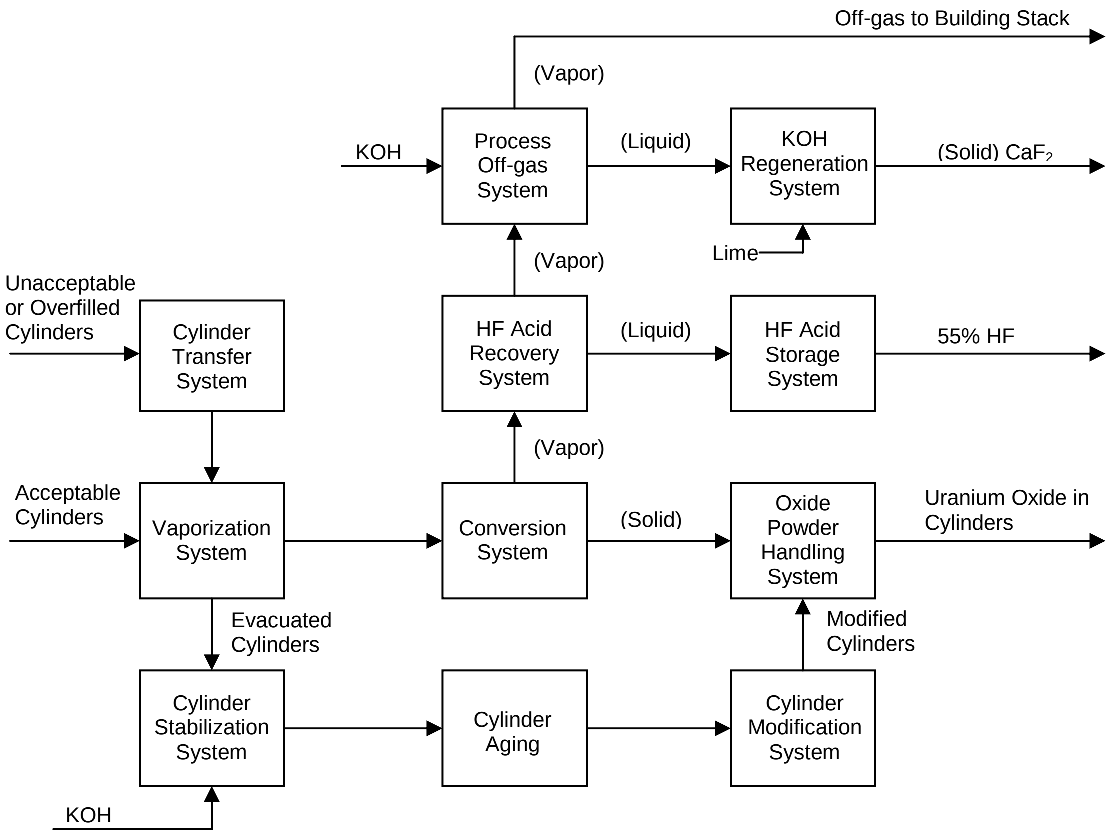
uranium oxides (UO_x) by reaction with steam and hydrogen in a fluidized bed conversion unit. The resulting oxide powder will be collected and packaged in empty, stabilized cylinders for disposition. The process equipment is arranged in parallel conversion lines. Each line consists of two autoclaves, two conversion units, hydrofluoric acid (HF) recovery system, and process off-gas scrubbers. The Paducah Conversion Building has four parallel conversion lines. The Portsmouth Conversion Building has three parallel conversion lines. Installed equipment will collect and load out the HF acid and uranium oxide products. The diagram below (next page) depicts a summary flowsheet of the major functional components for the DUF6 Conversion Process.

Table C.5 Major Process Flows

Material	Portsmouth Operations (MT/yr)	Paducah Operations (MT/yr)
DUF_6	13,500	18,000
Steam	3,767	5.125
Hydrogen (H_2)	59	80
Nitrogen (N_2)	5,253	7,123
Potassium Hydroxide (KOH)	5	6
Lime ($Ca(OH)_2$)	13	17
Uranium Oxide	10,800	14,300
Hydrofluoric Acid (HF)	8,300	11,000
Calcium Fluoride (CaF_2)	18	24

Table C.6 Process Conditions

System	Temperature (°C)	Pressure (bar)
Cylinder Transfer	65-90	
Vaporization	90-115	2.8-3.1
Conversion	450-690	0.9-1.2
HF Recovery	35-400	1-2
Oxide Powder Handling	75-100	
Process Off-gas	25-35	<1 bar



Note: As Low As Reasonably Achievable (ALARA) requirements (10 CFR 835, Occupational Radiation Protection) will dictate the sequence of cylinder stabilization and cylinder aging.

2. Cylinders will be transported from the cylinder storage yards to the Full DUF6 Cylinder Staging Yard. Prior to dry conversion processing, each cylinder will undergo nondestructive assay (NDA) or other measures to ensure that mislabeled cylinders of low-enriched UF6 (LEUF6) or normal UF6 (NUF6) are not processed in error. From the Full DUF6 Cylinder Staging Yard, the cylinders will be loaded onto a cart and moved into the Conversion Building airlock. From there the cylinders will be moved into the Vaporization Room (as defined in System Requirements Documents, see C.8) using a 25-ton overhead bridge crane and/or rail cart.

3. The cylinders that are to feed the Conversion Process will then be loaded into electrically heated autoclaves and heated to vaporize the DUF6. The approximate cycle time for a 14-ton, 48-inch diameter cylinder is 24 hours. The DUF6 is fed to the conversion unit which has previously been purged of air using nitrogen. The DUF6 vapor will combine with superheated steam and hydrogen gas and convert into uranium oxide in a fluidized bed conversion unit. The resulting uranium oxide powder will be discharged and pneumatic vacuum transported to a uranium oxide hopper. The uranium oxide will be discharged from each hopper through a roll compactor that compresses the uranium oxide to reduce its volume. From there it will be loaded into empty or heel cylinders that have been retrofitted with flanged filling nozzles. The filled cylinders will then be

moved into an airlock before exiting the building. Once the full cylinders have exited the building, they will be loaded into gondola railcars or flat bed trucks for transport to a disposal site. The full uranium oxide cylinders may be stored temporarily in the Oxide Cylinder Staging Area (as defined in Facility Design Description, see C.8) which includes the area external to the Conversion Building airlock, the railcar loading dock, and the waste rail spurs.

4. During the Conversion Process, the fluorine component of the DUF6 will leave the conversion unit as hydrogen fluoride (HF) vapor along with excess steam. The HF vapor and steam are condensed and off-gas scrubbers will recover all but a trace quantity of the uncondensed HF vapor. The resultant approximate 55% HF acid will be transferred to the HF Storage Area (as defined in C.2.5.4) to await sampling, loadout, and transport for sales.

5. After vaporization the heel cylinders may contain residual quantities of chemically-reactive fluorides and other nonvolatile material and will be transferred to a station for chemical stabilization to reduce the potential of un-neutralized fluoride compounds so that the heel will not be considered corrosive for disposal. The cylinders will then be aged to reduce the thorium-234 activity to meet As Low As Reasonably Achievable (ALARA) requirements. Thorium-234 has a half-life of 24.5 days. After 60 days, or 2.4 half lives, the radiation field from the thorium in the cylinder heel is 18% of the original radiation field. Whether cylinders are aged first or stabilized first will be determined from an ALARA evaluation. Based on previous experience with 30-inch diameter cylinders, the expected radiation field after a cylinder has been through the vaporization process is 150 millirem per hour (mrem/hr) on contact on the underside of the cylinder. The radiation field drops to 6 mrem/hr at 1 meter away from the cylinder. Based on an aging time of two months, the radiation field at the underside of the cylinder is anticipated to be 27 mrem/hr on contact and 1 mrem/hr at 1 meter away from the cylinder. This radiation level is the approximate target dose rate and should be sufficiently low to permit cylinder-filling operations. However, each cylinder is aged as long as necessary to reduce activity levels to ALARA. The final target dose rate for the cylinder preparation and loading operations will be determined during initial operations. After aging, 30-inch diameter heel cylinders, 48-inch diameter heel cylinders, and CV12 heel cylinders are transported to the Empty and Heel Cylinder Staging Area (as defined in Facility Design Description, see C.8).

6. Each sufficiently aged and stabilized cylinder will then be transferred to the hot shop to be retrofitted with a six-inch oxide-loading flanged nozzle on the valve end. If sampling is necessary, it will be performed after the nozzle is installed to allow improved access. After examination, a blind cover flange will be installed. The cylinder will also be inspected and any necessary repairs shall be performed to ensure the cylinder will meet transport requirements. In the unlikely event that a cylinder cannot be made suitable for refilling with uranium oxide, it will be prepared and shipped to a nuclear waste processor for subsequent disposal.

7. After inspection, the cylinder will be moved to the oxide loading area where it will be horizontally loaded onto an “upender” at the cylinder fill station. The cylinder will then be strapped onto the upender and tilted into a vertical position with the filling flange and valve end at the top. After the blind flange has been removed, the uranium oxide-filling flange will be connected to the cylinder flange and the vent line will be attached to the cylinder valve. The uranium oxide will be metered through a rotary valve into the cylinder, which will be vibrated to provide additional densification of the uranium oxide in the cylinder. After the cylinder has been filled, the blind flange will be replaced on the fill nozzle, and the

cylinder will be returned to the horizontal position. The cylinder will then be connected to the monorail crane. The outside of the cylinder will be swiped for fugitive uranium oxide dust and, if necessary, decontaminated. The cylinders will then be moved into an airlock prior to exiting the building to the Oxide Cylinder Staging Area. Once inside the Oxide Cylinder Staging Area, the cylinders will be loaded onto gondola railcars or flatbed trucks, using a 20-ton overhead bridge crane, for shipment to the disposal site.

E. Conversion Facility Information

1. DUF6 Conversion Operations are performed at each site in a specially constructed Conversion Facility comprised of buildings, systems, and equipment.

2. Process Systems: The dry conversion process at Portsmouth and at Paducah Conversion Facilities is performed using a series of inter-related systems as shown in the Table C.7. Table C.7 also lists the function of the Integrated Control System (ICS) control regimes for each of the systems.

Table C.7 Conversion Process Systems

System	Automated Process Support	Second Independent System required for Safety/Reliability on selected items	Local Manual Control
Cylinder Transfer	X	X	X
Vaporization	X	X	X
Conversion	X	X	X
Oxide Powder Handling	X		X
HF Recovery	X	X	X
Off-Gas Scrubber	X		X
KOH Feed	X		X
Cylinder Stabilization	X		X
Steam Supply	X		X
Hydrogen Supply	X	X	X
Building Services	X		X
HF Storage	X	X	
KOH Regeneration	X		X
Closed Cooling Water	X		X
Process Chilled Water	X		X
Nitrogen Supply	X		X
Air Supply	X		X
Deionized Water	X		X
Cylinder Handling			X

3. Integrated Process Control: The DUF6 Conversion Facilities utilize an ICS which is designed to utilize the latest digital control technology. The ICS controls and monitors the automated systems and associated components during normal Conversion Operations. The system also avoids and mitigates process upsets involving the Conversion Process and any of the systems or activities that have an interface with the Conversion Process. The ICS consists of two subsystems:

the Basic Plant Control System (BPCS) and the Independent Safety System (ISS). The function of the BPCS is to provide monitoring and control for normal Conversion Operations from the main control room and/or local operator workstations. The function of the ISS is to provide independent monitoring and control for those processes that are safety significant.

4. Facilities: In addition to the Conversion Building several additional facilities have been constructed at each DUF6 site that support the Conversion Process. The Administration Building houses nondirect operations personnel. The Warehouse Building provides storage space for the Conversion Facility's supplies and provides space for equipment repairs and maintenance, and provides cylinder yard personnel with a break room and a locker, shower, and change room. The HF Storage Area contains equipment to store the HF acid prior to loading into tanker rail cars or tanker trucks for shipment. The KOH Regeneration Building contains equipment that will collect spent potassium hydroxide (KOH) from the process system within the Conversion Building, converting KF into recycled KOH using hydrated lime and producing calcium fluoride (CaF_2), which is a process waste. This building will also contain equipment that will convert potable water into deionized water for use in the Steam Supply System, the HF Recovery System, and the Off-Gas Scrubber System. The description and size of each building is listed in Table C.8. These facilities exist at both Paducah and Portsmouth sites.

Table C.8 DUF6 Conversion Facilities Description

Building/Area	Description	Systems Included
Conversion Building 64,480 sq. ft.	Main process building for processing DUF6 into uranium oxide. The Conversion Building, a pre-cast concrete structure, is compliant with DOE requirements. The Paducah Conversion Facility has four process lines, while the Portsmouth Conversion Facility has three, with the available space for a fourth line.	• Cylinder Transfer System • Vaporization System • Conversion System • Oxide Powder Handling System • HF Recovery System • Process Off-gas System • Cylinder Stabilization System • Cylinder Modification System • Independent Control System • Integrated Control System • Steam Supply System • HVAC System • Instrument Air Supply System • Chilled Water System • Closed Cooling Water System • Main Power Supply System
KOH Regeneration Building 4,200 sq. ft.	Process building for regenerating KOH from KF. KF is generated in the KOH scrubbers to remove residual HF from the off-gas stream. CaF_2 is the final waste product from the KOH regeneration process. This building also generates deionized water and treats effluent wastewater prior to discharge.	• KOH Regeneration System • DI Water System • Effluent Treatment System

HF Storage Area 5,290 sq. ft.	Semi-enclosed outside area for the storage of 55% HF acid in rubber-lined storage tanks. This also houses facilities for loading tank railcars and truck trailers.	• HF Storage System
Nitrogen Generation Area 3,330 sq. ft.	Outside process system for the generation of gaseous and liquid nitrogen with a storage capacity of 9,000 gallons of liquid nitrogen for plant use. The system is a leased liquid-assist system that will be operated by the vendor.	• Nitrogen Supply System
Hydrogen Generation Area 2,400 sq. ft.	Outside process system for the generation of gaseous hydrogen from natural gas. There is no hydrogen storage capacity.	• Hydrogen Supply System
Full DUF6 Cylinder Staging Yard 7,680 sq. ft.	Outside area for the temporary staging of full DUF6 cylinders prior to conversion. The area includes a bridge crane for moving the cylinders within the staging into the Conversion Building.	
Cylinder Aging Storage Yard 26,170 sq. ft.	Outside area for the temporary storage of empty and heel DUF6 cylinders for aging the remaining heel to meet ALARA requirements.	
Administration Building 10,250 sq. ft.	General service building for operations management and administrative staffs	
Warehouse Building 9,100 sq. ft.	Maintenance and storage building for plant and operations supplies, as well as housing maintenance and cylinder yard staffs.	

5. Infrastructure and Utilities: Several utilities for the Conversion Facility are provided directly from existing systems at the respective GDP (Gaseous Diffusion Plant) facilities. Other utilities required for the Conversion Process are generated within the Conversion Facility by project-specific equipment. Utilities obtained from the GDP are the same for both Portsmouth and Paducah sites.

6. Service Water: All Conversion Facility water-related systems are supplied from existing GDP utilities. A main water supply is furnished to the Conversion Facility and in turn supplies the service water system. This system is then distributed throughout the Conversion Facility as a supply to the potable water, deionized water, and utility water systems.

7. Fire Water: Water supply for the Conversion Facility fire protection systems is provided by an existing GDP system. The Conversion Facility fire system contains connections to the GDP system in two independent locations. The fire protection system consists of underground mains and hydrants throughout the site and wet sprinkler systems within Conversion Facility buildings.

8. Natural Gas: Natural gas is supplied from the GDP for the production of hydrogen gas, utilized by the Conversion Process.

9. Stormwater and Sanitary Drainage: Stormwater and sanitary drainage are collected throughout the Conversion Facility and discharged to existing GDP infrastructure systems.

10. Electric Power: Electric power for the Conversion Facility is supplied by the existing GDP electrical utility system.

11. Rail: An onsite Conversion Facility rail system has been installed and connected to the existing GDP system to allow rail service to the Conversion Facility.

12. Roads: An onsite Conversion Facility road system has been installed and connected to the existing GDP road network for vehicular traffic in and out of the Conversion Facility.

13. All other Conversion Facility utilities are manufactured within the plant boundaries (e.g., hydrogen, nitrogen), based on a supply of the above utilities.

14. Descriptions of the site, utilities, rail, and roads can be found in the Facility Design Description (FDD) documents for the Paducah and Portsmouth sites per C.8. These documents follow DOE standards and, as such, include requirements, then provide descriptions of how the Conversion Facility is to meet these requirements. Similar detailed discussions of buildings can be found in the FDD. The FDD also provides an overview of buildings, systems, and equipment and refers to them, either in appendices at the end of the FDD or in stand-alone System Design Description (SDD) documents referenced in the DUF6 Operations website.

15. Other services and minor utilities are discussed further in Section C “Critical Interfaces and Integration”.

F. Conversion Facility and Regulatory Information

1. The Paducah and Portsmouth Conversion Facilities were designed and built by the UDS Incumbent Contractor, and upon award of this Contract construction of both Conversion Facilities will be complete and an ORR have been completed by the UDS Incumbent Contractor in accordance with DOE Order 425.1C Startup and Restart of Nuclear Facilities.

2. During the Mobilization and Transition Phase described above, all ORR “pre-start” findings shall be closed by the UDS Incumbent Contractor, and the Department will have approved the ORR and completed a DOE ORR.

3. A Supplement Analysis, covering both the Portsmouth and Paducah Conversion Facilities, was issued as a draft on April 3, 2007 (72 FR 15869). After a 45-day public comment period, the Supplement Analysis was revised. The Department will be responsible for obtaining necessary approvals of the Supplement Analysis (i.e., approval will be a Government-Furnished Services and Items (GFS/I) deliverable). The Contractor, responsible for operating the DUF6 Conversion Facility at the Portsmouth and Paducah sites, shall not commence Conversion Operations (as defined in C.4) until the Department provides formal, written direction.

4. With the exception of the Supplement Analysis, the Contractor will be responsible for preparation of any additional NEPA documentation required to complete the scope of work. The Contractor shall advise DOE of the need to prepare additional NEPA documentation, shall provide DOE with draft NEPA documentation for review and comment, and shall incorporate DOE comments in the final NEPA document. The Contractor shall reproduce and distribute the appropriate number of final NEPA documents, as requested by the DOE.

5. Table C.9 identifies the expected hazard categories for each area and Conversion Facility.

Table C.9 Hazard Category[1] by Segment and Conversion Facility

Area	**Hazard Category[2]**	
	Paducah	**Portsmouth**
Current Cylinder Storage Yards	2	2
Full Cylinder Staging Area	3	3
Conversion Building	3	3
HF Loadout Area	Below 3	Below 3
Oxide Staging Area	3	3
Empty and Heel Cylinder Staging Area	3	3
Miscellaneous Support Areas	Below 3	Below 3

Notes:

1. The hazard categories are finalized with completion of the final hazard categorization report.
2. Hazard categories (HCs) are defined in 10 CFR 830. HC 1 to HC 3 specifies the most hazardous to least hazardous nuclear facility. Below 3 refers to those facilities considered at most to be classified as Radiological Facilities. Hazard Category 1 applies to Nuclear Reactor Facilities. Hazard Category 2 applies to Non-Reactor Nuclear Facilities/Areas that have potential for off-site impact. Hazard Category 3 applies to Non-Reactor Nuclear Facilities that have a potential for on-site impact only.

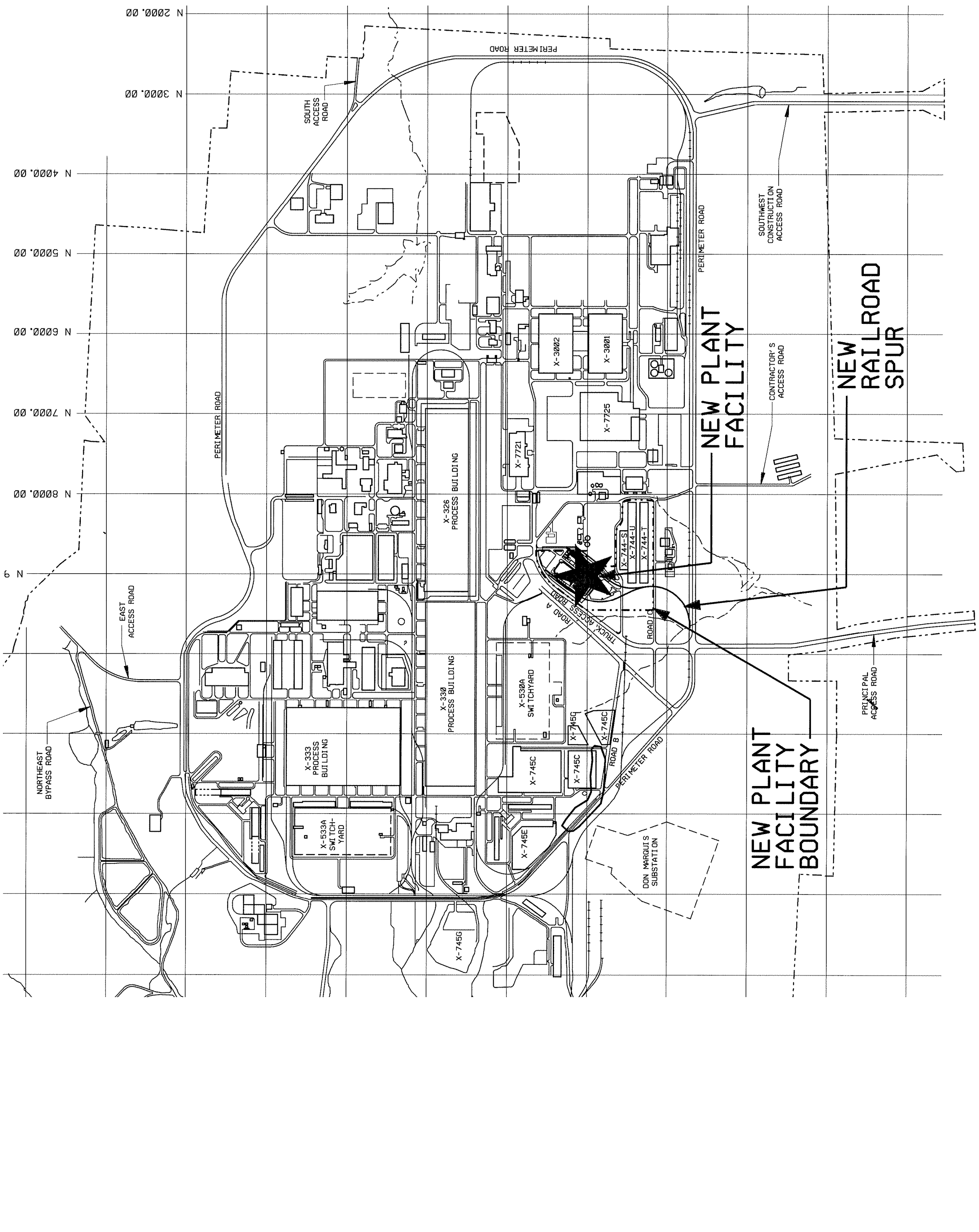
6. Table C.10 extracted from the System Requirements Document for the Overall Uranium Hexafluoride Conversion Project (May 2007) reflects the current cylinder inventory.

Table C.10 Total Cylinder Quantities by Type and Site (See individual site SRDs for cylinder types/contents)		
Cylinder Type	**Site**	
	Paducah	**Portsmouth**
30A	1824	700
30B	1	48
48A	93	1184
48G	22231	9852
48H	22	858
48HX	34	327
48O	5295	257
48OH	0	30
48OHI	1	57
48OM	6954	7088
48T	605	3604
48X	198	328
48Y	60	58
CV12	150	0
CV19	137	0
FAB3	0	2
SAM	0	23
UKN	1	7
Note: There are a small number of cylinders less than 30 inches in diameter located at Paducah not included in this table to be addressed per C.6.2.3.		

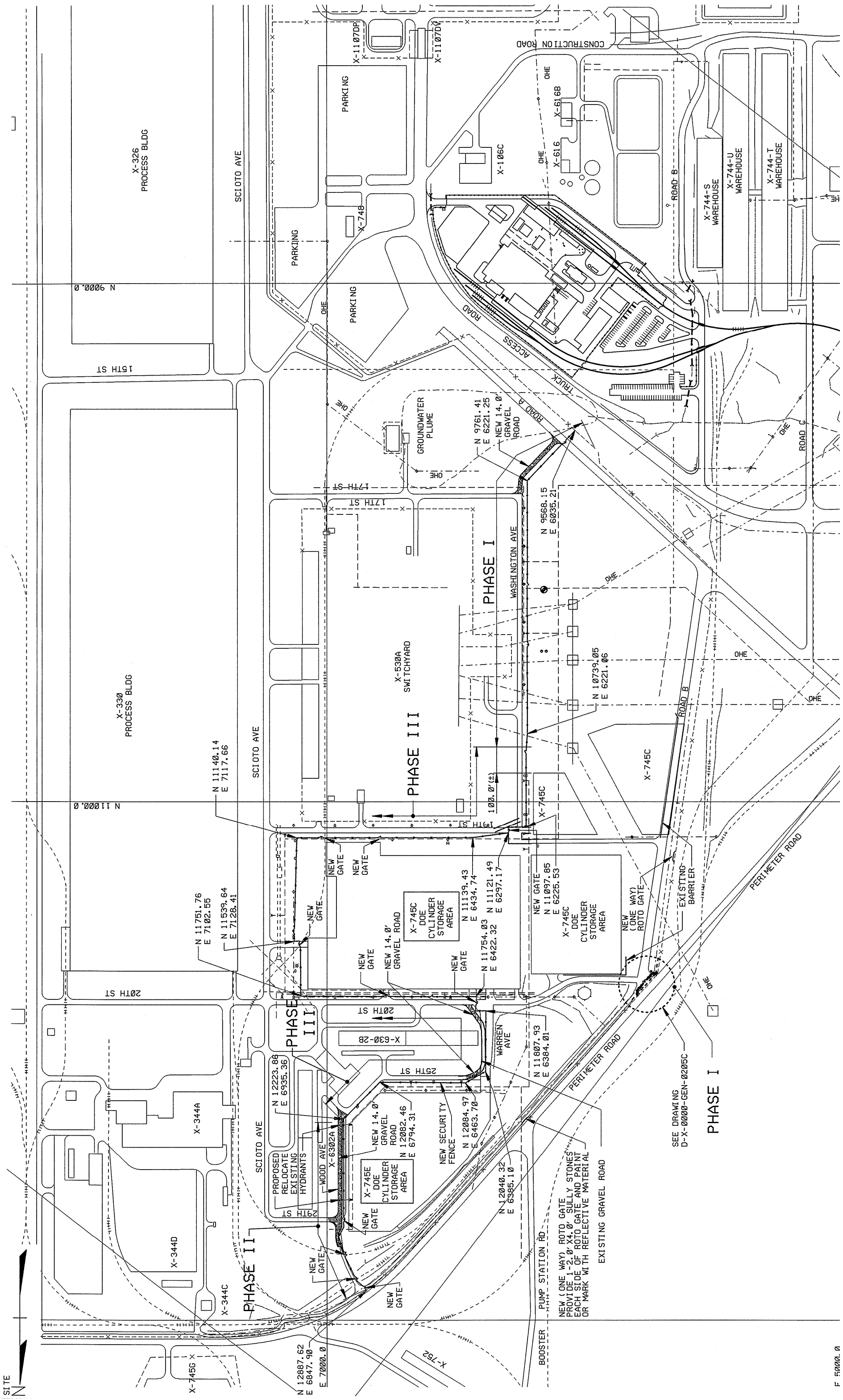
7. Project Drawings

Following are limited site drawings:

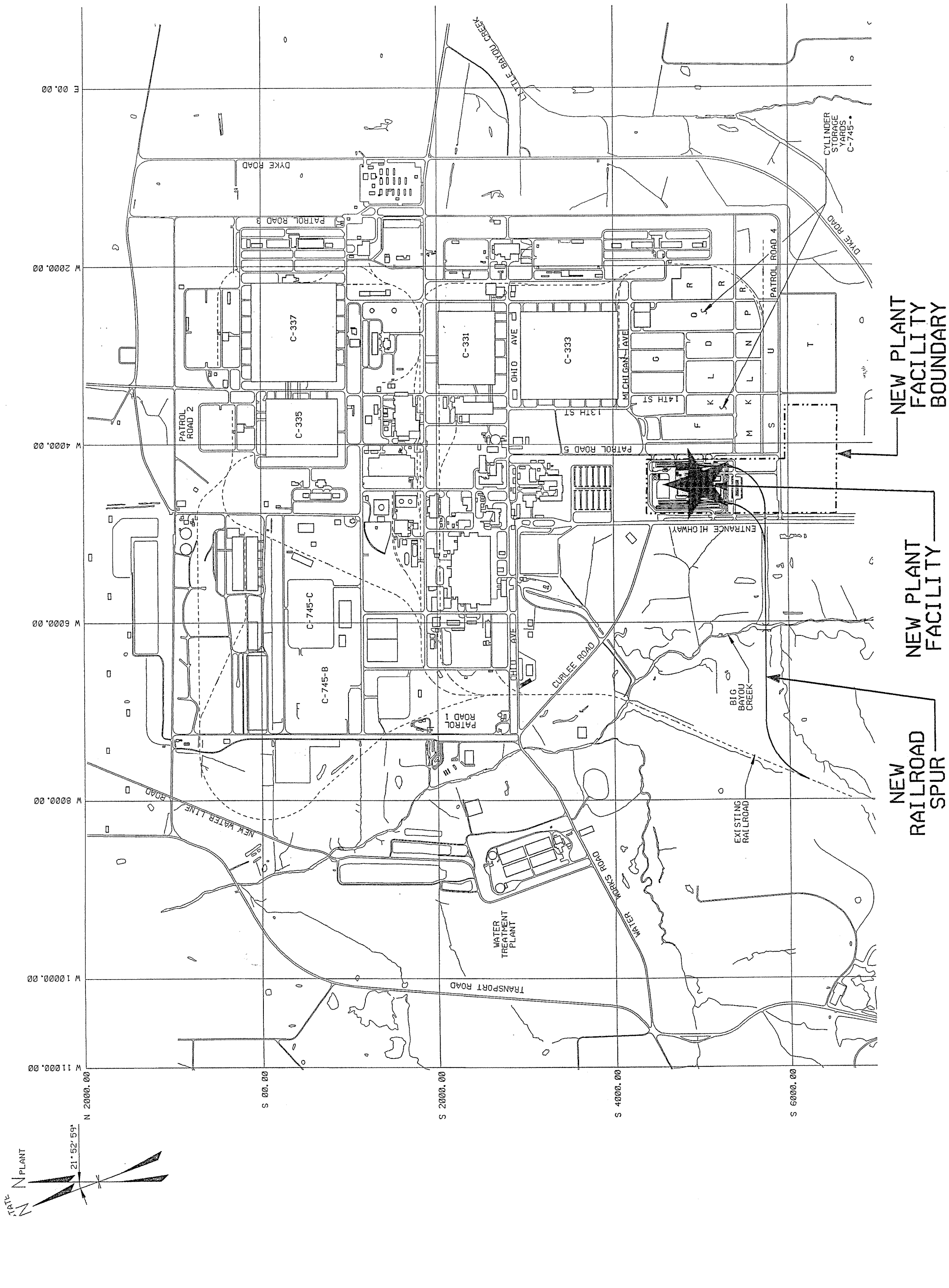
Portsmouth Gaseous Diffusion Plant



Portsmouth Cylinder Yard Locations



Paducah Gaseous Diffusion Plant



Paducah Cylinder Yard Locations